

from each other by Roanoke Island. Roanoke Sound is very shallow and is not hydrodynamically important. However Croatan Sound, which is about 25 km long and 7-10 km wide, and is aligned north-northwest to south-southeast, is the important connection between the two basins (cf. Figure 3). While Pamlico Sound has direct connections to the coastal ocean through Oregon, Ocracoke and Hatteras Inlets, the Albemarle has no natural connection to the adjacent coastal ocean. A more complete description of the morphology of the entire system can be found in Copeland and Gray (1989).

The objective of this study was to obtain an understanding of the hydrodynamic coupling of Albemarle and Pamlico Sounds via water motions in Croatan Sound to determine whether these motions could have a deleterious effect on the process of fish larvae recruitment into Albemarle Sound. In effect, the question asked is: "Are abiotic factors due to the hydrodynamic coupling of Albemarle and Pamlico Sounds responsible for the lack of a significant ocean spawned finfish population in the Albemarle?" The objective was to be achieved through a two year program consisting of a field measurement component and a data reduction and interpretation phase. The official period of this project was October 1, 1988 through September 30, 1990; however, actual funding was made available in November, 1988. Subsequently, instruments were refurbished, calibrated and prepped during the November and December 1988. During January and February 1989, reconnaissance surveys of potential instrument locations were conducted prior to instrument deployment. Measurements were made in the period March 1989 - August 1990. Preliminary data analysis was performed throughout the period following the first data retrieval and a draft report was submitted to the Albemarle-Pamlico Estuarine Study (APES) Program Executive Committee in December, 1990. Following receipt of APES review comments, the final draft report was completed in May 1991 and amended in August, 1991.